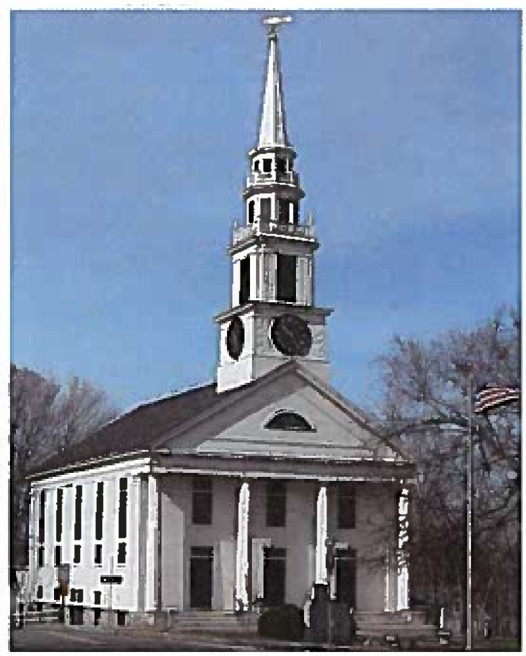
EXHIBIT 10

Environmental

Sound Assessment



Wireless Communications Facility

30 Grafton Common,
Grafton, Massachusetts 01519

Revised August 11, 2017

Prepared For:

Verizon Wireless
118 Flanders Road
Westborough, MA 01581

Prepared By:

Modeling Specialties
30 Maple Road
Westford, MA 01886

ENVIRONMENTAL SOUND ASSESSMENT

Verizon Wireless proposes to operate a Wireless Telecommunications Facility in Grafton, Massachusetts to support personal wireless communication in the area. The proposed Verizon Wireless installation will include antennas mounted in the steeple of the Congregational Church of Grafton at 30 Grafton Common. Two supporting electronic cabinets will be in a fenced compound in the rear of the church. A cabinet mounted emergency generator will also operate in the compound. This generator will operate only during emergencies and for routine daytime testing of about one half hour every two weeks. The proposed 15 kW Polar generator at this site is not only very small, it is double insulated to assure a low sound profile.

The R1 Revision (May 22, 2017): includes changes to the configuration of the equipment compound and its fence. The primary change that affects the sound study is the added barrier lining on the inside of the 9 foot fence. This report addresses the existing sound levels in the area, revised sources of sound expected at this installation, sensitive land uses and an evaluation of its potential to affect the neighboring land uses.

The R2 Revision (August 11, 2017): The equipment was moved approximately 20 feet to the north in a new configuration. The compound footprint is also smaller, placing the sound sources nearer to the fence/barriers, which reduces the sound at most receptors. This revision addresses the potential interaction of the facility with wind and rain.

Overview of Project and Site Vicinity

The project is located at an existing church building in Grafton, MA. The host building is very large compared to the equipment so provides some shielding of both equipment sound and sound from ambient sources. Ambient measurements were made near the front of the church to represent the prevailing ambient sound in the area. Daytime and nighttime sound levels were dominated by traffic on Route 140 (Upton Street - Worcester Street) and other main roads. During nighttime periods, the sound seemed to be dominated by distant traffic and building mechanical sound. Single family residences are located to the south, west and north of the equipment compound. The nearest sensitive land uses are identified for detailed analysis in this study. Figure 1 is a Google Earth aerial photograph annotated to show the host building and surrounding area.

Daytime and nighttime field measurements were made to survey existing conditions. The equipment sound was estimated using vendor data and measurements made at similar installations. The corresponding levels expected at the nearby sensitive locations were estimated using noise modeling techniques prescribed in acoustical literature. Plans and equipment details were provided by Verizon Wireless to support this evaluation of sounds. The report is based on zoning drawings issued by Chappell Engineering Associates, LLC dated 8/9/17. This conservative study is based on the highest sound levels that the equipment is expected to make, even though it makes that sound only a small fraction of the time.

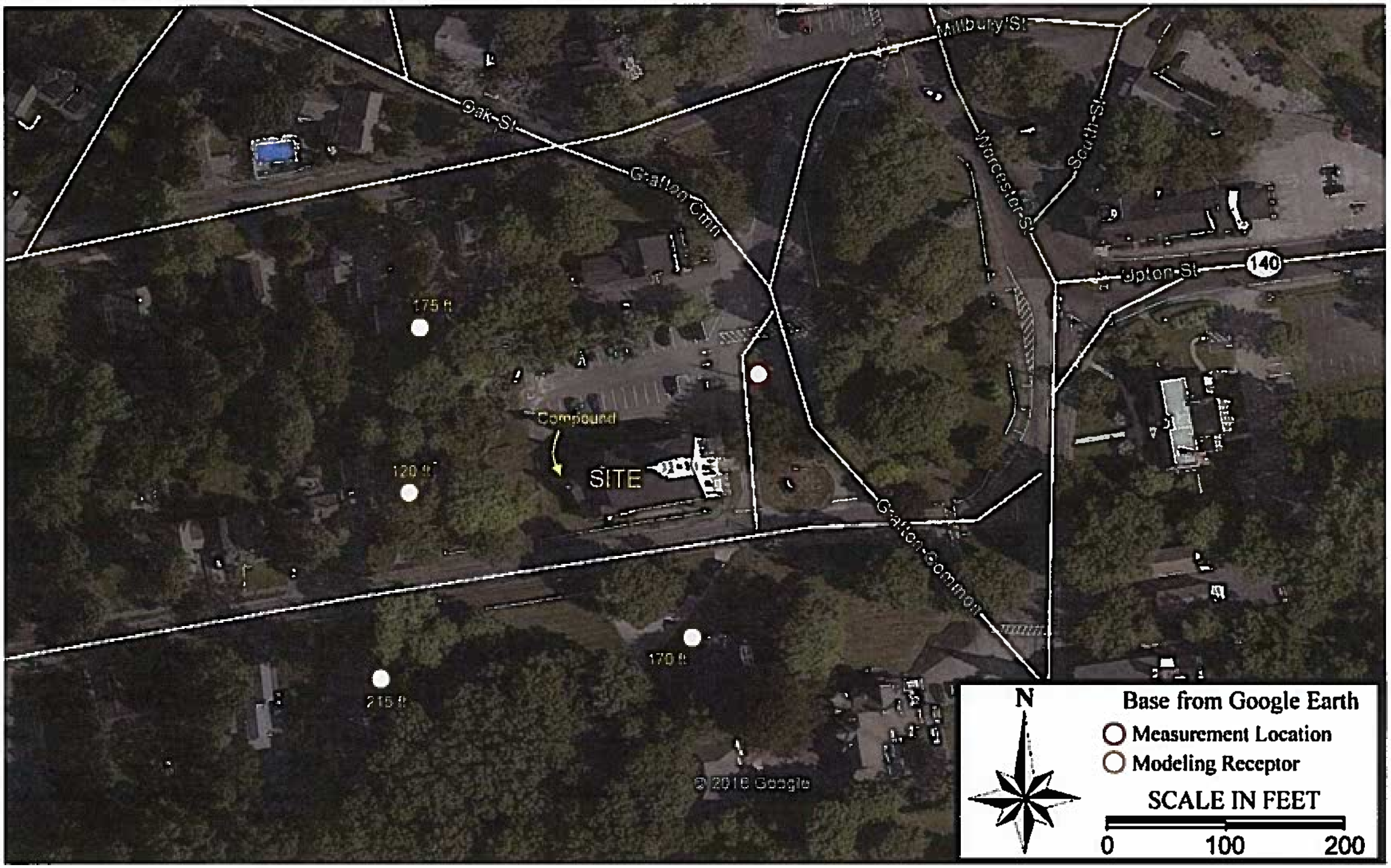


Figure 1: Project Area Showing the Equipment Compound and Nearest Receptors

Discussion of General Noise Analysis Methods

There are a number of ways in which sound (noise) levels are measured and quantified. All of them use the logarithmic decibel (dB) scale. Following is a brief introduction to the noise measurement terminology used in this assessment.

Noise Metrics

The Sound Level Meter used to measure noise is a standardized instrument.[1] It contains "weighting networks" to adjust the frequency response of the instrument to approximate that of the human ear under various circumstances. One of these is the *A-weighting* network. A-weighted sound levels emphasize the middle frequency sounds and de-emphasize lower and higher frequency sounds; they are reported in decibels designated as "dBA." All broadband levels represented in this study are weighted using the A-weighting scale. Figure 2 illustrates typical sound levels produced by sources that are familiar to most people.

The sounds in our environment usually vary with time so they cannot always be described with a single number. Two methods are used for describing variable sounds. These are *exceedance levels* and *equivalent level.* Both are derived from a large number of moment-to-moment A-weighted sound level measurements. Exceedance levels are designated L_n, where "n" can have any value from 0 to 100 percent. For example:

- L_{90} is the sound level in dBA exceeded 90 percent of the time during the measurement period. The L_{90} is close to the lowest sound level observed. It is essentially the same as the *residual* sound level, which is the sound level observed when there are no loud, transient noises.

- L_{50} is the median sound level: the sound level in dBA exceeded 50 percent of the time during the measurement period.

- L_{10} is the sound level in dBA exceeded only 10 percent of the time. It is close to the maximum level observed during the measurement period. The L_{10} is sometimes called the *intrusive* sound level because it is caused by occasional louder noises like those from passing motor vehicles.

By using exceedance levels it is possible to separate prevailing, steady sounds (L_{90}) from occasional, louder sounds (L_{10}) in the environment.

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1 *American National Standard Specification for Sound Level Meters*, ANSI S1.4-1983, published by the Standards Secretariat of the Acoustical Society of America, NY.

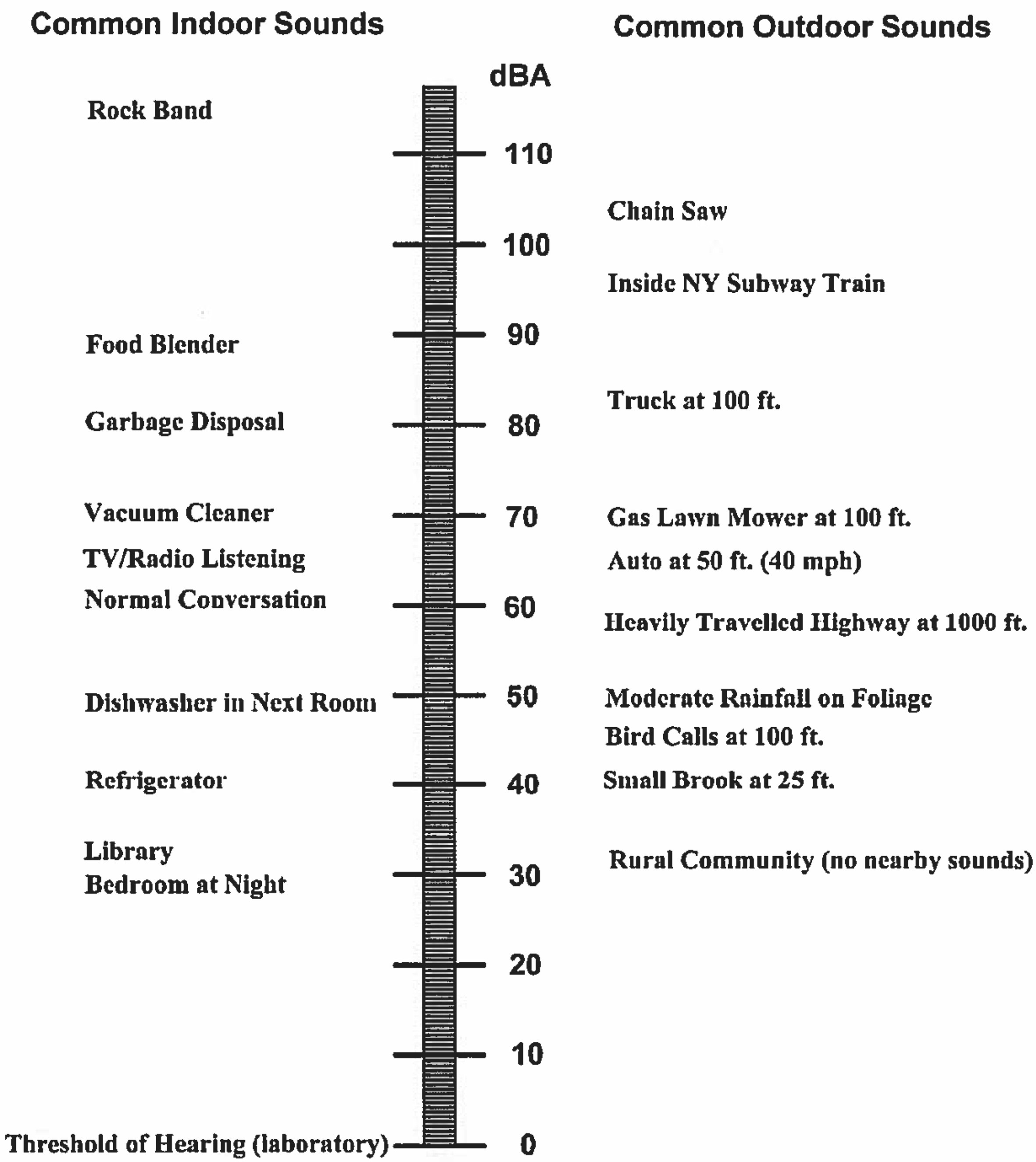

Figure 2:
Typical Sound Levels from Everyday Experience

The *equivalent level* is the level of a hypothetical steady sound that has the same energy as the actual fluctuating sound observed. The equivalent level is designated L_{eq}, and is also A-weighted. The equivalent level is strongly influenced by occasional loud, intrusive noises. When a steady sound is observed, all of the L_n and L_{eq} are equal.

In the design of noise control treatments, it is essential to know something about the frequency spectrum of the sound of interest. Noise control treatments do not function like the human ear, so simple A-weighted levels are not useful for noise-control design or the identification of tones. The spectra of sounds are usually stated in terms of *octave band sound pressure levels*, in dB, with the octave frequency bands being those established by standard.[2] The sounds at the proposed site have been evaluated with respect to the octave band sound pressure levels, as well as the A-weighted equivalent sound level. Only the A-weighted values are presented here, since they represent the more easily recognized sound scale that is relevant to regulatory standards.

Noise Regulations and Criteria

Sound compliance is judged on two bases: the extent to which governmental regulations or guidelines are met, and the extent to which it is estimated that the community is protected from the excessive sound levels. The governmental regulations that may be applicable to sound produced by activities at the project site are summarized below.

Federal

- Occupational noise exposure standards: 29 CFR 1910.95. This regulation restricts the noise exposure of employees at the workplace as referred to in OSHA requirements. Workers will not routinely attend this facility. Furthermore, the facility will emit only occasional sounds of modest levels, as demonstrated by this study.

State

- In Massachusetts, noise is regulated as an air pollutant. 310 CMR §7.10 U qualitatively prohibits "unnecessary emissions from [a] source of sound that may cause noise". This is interpreted quantitatively by MDEP's Form BWP AQ SFP3 and their DAQC Policy 90-001. The MDEP's Noise Policy states that a new noise intrusion may not increase the broadband sound level by more than 10 dBA over the pre-existing L_{90} ambient level. Tonal sounds, defined as any octave band level that exceeds the levels in adjacent octave bands by 3 dB or more, are also prohibited. The MDEP usually defers to applicable quantitative local ordinances when available.

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2 *American National Standard Specification for Octave, Half-octave and Third-octave Band Filter Sets*, ANSI S1.11-1966(R1975).

Local

- Grafton General By-Laws and Zoning By-Laws were reviewed to identify any quantitative standards for facility sound. Zoning By-Law Section 5.8 Wireless Communication Facilities provides clear guidance on many aspects for wireless facilities. But in the absence of quantitative standards, the MDEP criteria (Ambient + 10 dB) will be used as the basis for this evaluation of facility sound.

Existing Community Sound Levels

A daytime site survey and noise measurement study was conducted on February 27, 2017 to measure the existing sound levels at and around the site. The measured levels included occasional intrusive sound from sources such as traffic, birds, wind gusts and aircraft. Based on the walk-around survey of the site, the levels on the common are significantly affected by traffic. But the background levels used in this study are very similar at all nearby properties. The baseline measurements consistent with MDEP studies use the background metric (L90) statistically excluding all non-steady sources. The L90 metric gives the lowest ten percent of the many samples gathered during a 20-minute measurement taken to the east of the Church building on a part of the common.

A nighttime survey was conducted in the early hours of March 1, 2017. Even though the facility has no significant nighttime sources, it is valuable to document the sound levels under quiet late night community conditions.

Measurement Methodology

Since sound impacts are greatest when existing noise levels are lowest, this study was designed to measure community sound levels under conditions typical of "quiet periods" for the area. Meteorological conditions during the daytime included clear skies, a temperature of 43° F, with 5 mph wind from the SW with occasional gusts. Nighttime survey conditions included overcast skies with fog, a temperature of 47° F with light wind from the South. All meteorological conditions were noted from field observations but are generally like the official reports at Worcester Regional (KORH). All official reporting stations have an elevated anemometer and wide open space, so their winds are significantly higher than the observed at sidewalk level at the site. The common is also somewhat shielded from the prevailing wind by large municipal structures, trees and terrain.

Daytime and nighttime attended sound level measurements were made with a Rion NA-28 sound level meter. The meter meets the requirements of ANSI S1.4 Type 1 – Precision specification for sound level meters. The meter was mounted at approximately 5 feet above the ground. The microphone was fitted with factory recommended foam windscreen. The meter was used to sample the environmental sound and to process the sound into various statistical metrics for use in this analysis. The L90 sound level is used in this study to represent the ambient background sound levels. The meter is equipped with real time octave band filter set, which allowed it to process sound levels into 1/3 octave bands. While frequency specific data were collected, the survey results are reported only in combined A-weighted levels for simplicity and consistency with the MDEP criteria. The filters comply with the requirements of the ANSI S1-11 for octave band filter sets. The meters were calibrated in the field using a Larsen Davis Cal-200 sound level calibrator before and after the measurement sessions. The results of the field calibration indicated that the meters did not drift during the study.

The results of the surveys allow both quantitative and qualitative analyses of the acoustical environment surrounding the proposed equipment. The characterization of ambient sound levels reflects the variations caused by volume of traffic on Route 140 and local roadways, occasional aircraft passes, building mechanical and natural sounds. Despite the relatively low temperatures, some ventilation systems on the various nearby buildings were active during the survey.

Measurement Results

The measured background levels in the project area ranged from 46 dBA during the traffic dominated daytime to 33 dBA in the quietest hours of the night. The results are summarized in Table 1.

Table 1: Measured Background Sound Levels in the Project Area

Period	Time	L90 dBA
Daytime	10:16 PM	46
Nighttime	3:20 AM	33

Sounds from the Proposed Installation

Most of the equipment planned for this facility has no potential of emitting sound. Cabling and piping for natural gas and utilities will be incorporated into the existing building. Only two occasional sources are planned for this facility as quantified in this study. The antennas will be supported by cabinet mounted radio electronics in a fenced compound located in the rear of the church. Also in the compound, is a cabinet mounted emergency generator. This study is based on the levels produced during their infrequent operation. Figure 3 shows the layout of the project area with the proposed equipment. Figure 4 shows the elevation sketch of the church and proposed equipment configuration.

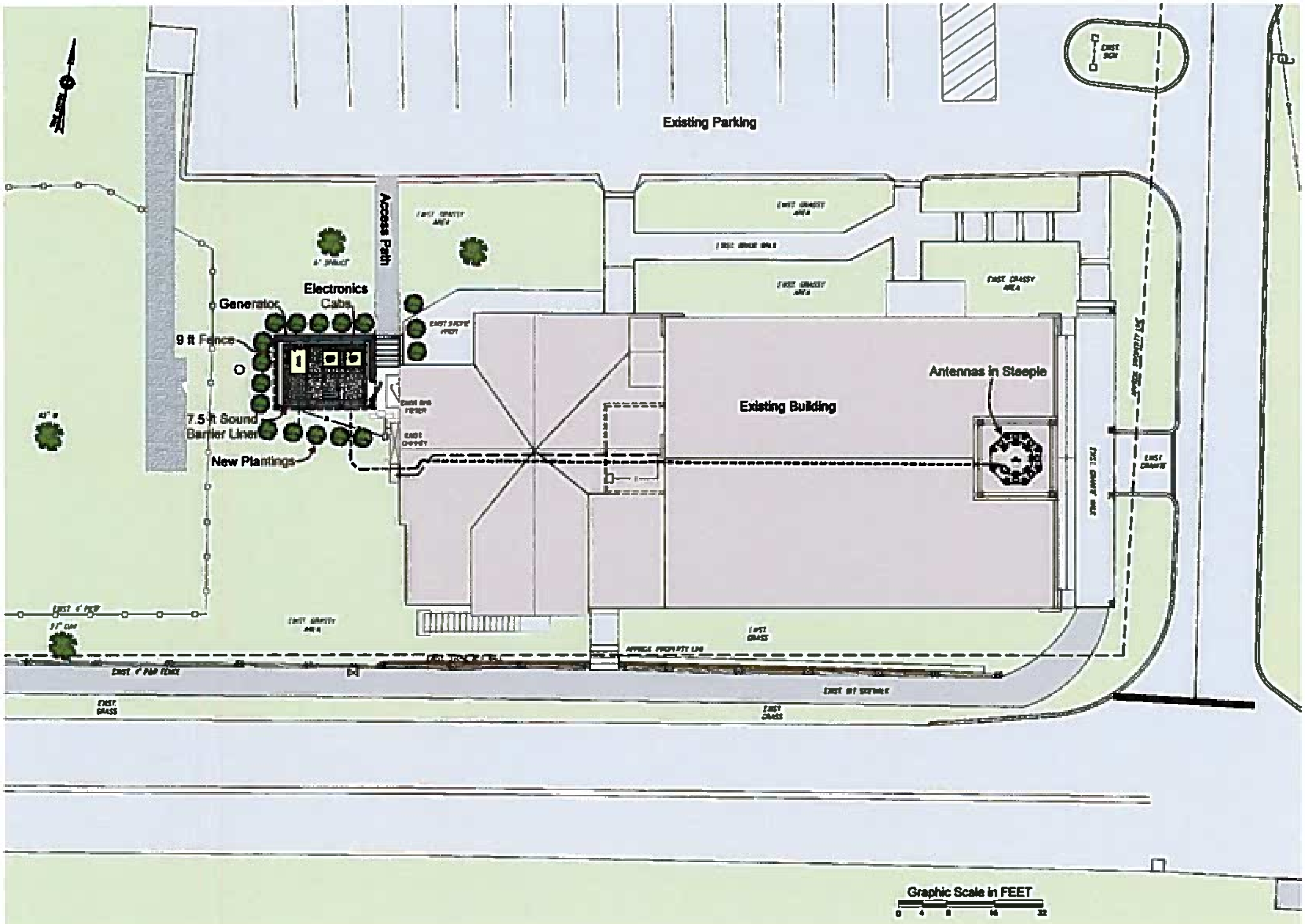


Figure 3: Plan Showing the Equipment Layout behind the Existing Church Building

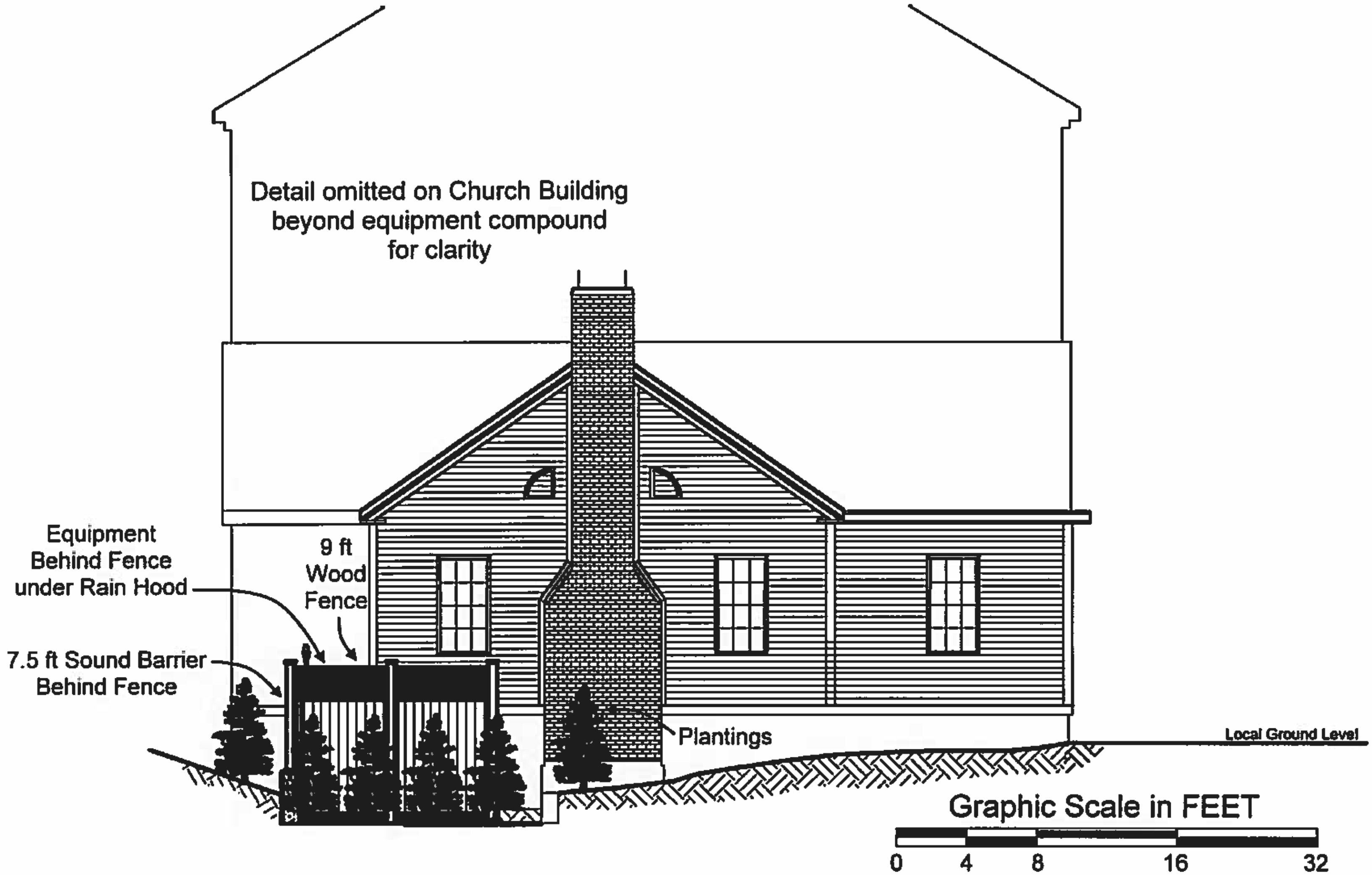
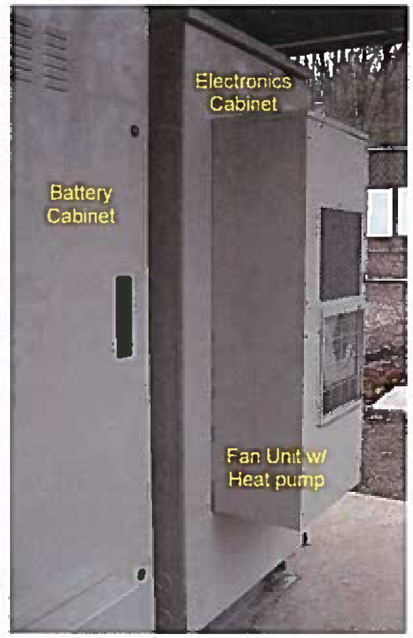


Figure 4: Elevation Plan Showing the Vertical Character of the Building and Equipment Compound

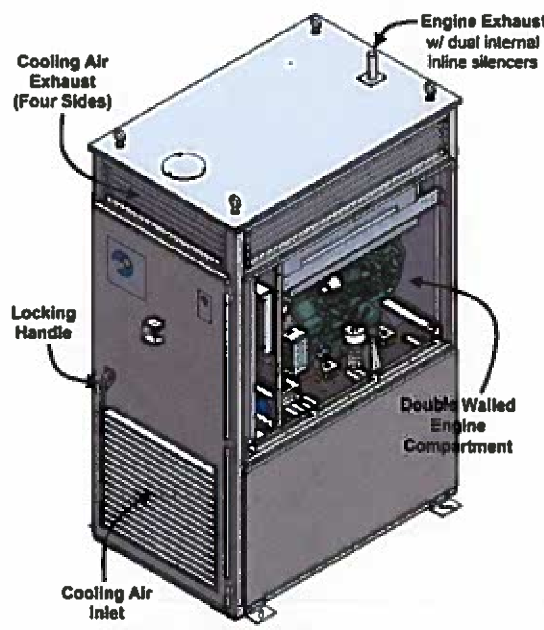
Routine Sound Emissions

The only routine sound emissions planned for the Verizon Wireless equipment is from the electronics cabinet fan. The small fan on the front door of the cabinet draws air into the unit. It has a smooth broadband character that produces about 50 dBA at 3 feet from the unit. The fan on the electronics cabinet will operate continuously, so there will be no variation from moment to moment or cycling from equipment startup. The fan is mounted on the inside of the cabinet so it is hardly heard from the outside of the cabinet (which will always remain closed). In this way, the cabinet configuration is designed for minimal effect on the surrounding area. The field image to the right shows fan unit and the battery cabinet. The electronics equipment in the cabinets is temperature sensitive. When the ambient conditions exceed a safe temperature, a heat exchanger mounted on the cabinet doors will provide cooling for the equipment. Under max cooling the heat exchanger produces about 50 dBA at a distance of 23 feet from the unit. The cabinet coolers will only be needed during periods of high ambient temperature.



Non-Routine Sound Emissions

The installation will include a small 15 kW Polar generator installed inside a third cabinet. It is a DC generator, which dramatically changes the way that it supports the facility. When a familiar AC generator is tested, the engine quickly ramps up to full operating speed. In contrast, this proposed DC generator will only operate to the level demanded by the load. For a half-hour every two weeks, the engine will be remotely tested to assure availability. But since it will have no load, the unit will essentially operate at an idle during the test with a sound level of about 54 dBA at 23 feet. As a reference, this is about the same sound level as a well-tuned sedan at an idle. The movement and idling of automobiles at the church and common are common in this area and are not noticed in a typical community.



The Verizon Wireless equipment is monitored remotely, so attended service will be infrequent. Twice per year, a full load test will produce about 62 dBA at a distance of 23 feet. Because this maintenance is so infrequent and requires a technician with a mobile load bank, it is considered an upset condition and is not evaluated in this study.

Modeling Details

Noise prediction modeling was performed using CADNA software under downwind weather conditions as assumed in the standard ISO 9613-2. Table 2 summarizes the modeling input parameters.

Table 2: Modeling Input Parameters

Item	Modeling Input and Description
Terrain	Flat Terrain assumed
Temperature	10°C
Relative Humidity	70%
Weather Condition	6.5 mph, directly from facility to receptor*
Ground Attenuation	0.2, hard surface (0.5 = soft ground, 0.0 = pure reflection)
Atmospheric Inversion	CONCAWE – Category F**
# of Sound Reflections	2
Receptor Height	1.5 meter above ground level

** Propagation calculations incorporate the adverse effects of certain atmospheric and meteorological conditions on sound propagation, such as gentle breeze of 1 to 5 m/s (ISO 1996-2: 1987) from source to receiver.*
*** Category F represents a stable atmosphere that promotes noise propagation.*

Sound Level Modeling Results

Table 3 provides a summary of the modeling results. Since the equipment will be at the rear of the church, the church structure shields locations east. And because the church represents a large flat structure, some sound will bounce off to the west. These factors were considered in the modeling of facility sound. The routine operation of the facility will be just the equipment cabinet fans. During the hottest part of the summer, over 90° F, the cabinet cooler will contribute additional sound at 29 dBA or less at the neighbors, which is far below daytime ambient levels.

For one half-hour every two weeks, the daytime worst-case equipment levels will include the generator and be 39 dBA at the nearest residences. This is well below the daytime ambient level. Sounds that are at or less than the ambient level are not noticed in a typical community. For this reason, generator test is not expected to be noticed during its infrequent daytime test. A graphical summary of the modeling results is also provided in Figure 5 which shows contours (lines of equal sound level) along with discreet receiver levels.

Table 3: Summary of Worst-Case Sound Levels with the benefit of the fence sound liner

Receptor Location	Distance (Ft)	Ambient Level Day/Night (dBA)	Combined VZW Level (dBA)
West	120	46 / 33	39
Res North	175	46 / 33	35
Res Southeast	170	46 / 33	27
Res Southwest	215	46 / 33	34

Conclusions

The potential sound of the proposed Wireless Telecommunications Facility was evaluated using measured field data and numerical modeling methods. Ambient sound levels were established by field measurements using equipment that is standardized to the current ANSI standards. Equipment operating sound level was quantified using vendor estimates confirmed by representative field measurement at other installations. Most of the time, the proposed facility will produce only a gentle fan sound that can't be heard outside the compound. During the hottest part of the summer, the cabinet cooling equipment will produce some additional sound, which was modeled in this study to be 29 dBA at the nearest residences. This is well below the existing daytime ambient when the hottest conditions are expected and therefore is not expected to be noticed in the community.

Infrequently, the proposed equipment sounds will include the daytime testing of the emergency generator. During that half-hour daytime test every 2 weeks, the combined sound from the Verizon Wireless facility is expected to be 39 dBA or less at the neighboring residences.

The equipment will include outdoor surfaces that have the potential to interact with the prevailing wind and rain to produce some additional sound. The gauge and rigidity of the ice shield is similar to the hood/roof of typical automobiles (20 ga painted steel), which are common at the church and in the driveways of nearby residences. Sound is reduced significantly by an increase in distance from the source to the receiver. Since any sound created by the wind/rain interaction with the compound would be similar to its interaction with the house, automobiles, sheds, etc. much closer to the receivers, the facility weather sound is not expected to significantly affect the level at any residence.

The revised analysis shows that the facility levels will be reduced by 5 to 8 dBA at the nearest residences by adding the lining on the fence and reducing the footprint of the compound. The receiver to the southeast was reduced further because of the shielding provided by the existing church building. The study indicates that the facility sources will not only meet the MDEP standard for operation, but the sound will be well below the existing measured sound levels. The results support that the equipment will be in full compliance during all operating conditions and are not expected to be noticed against the daytime ambient level.

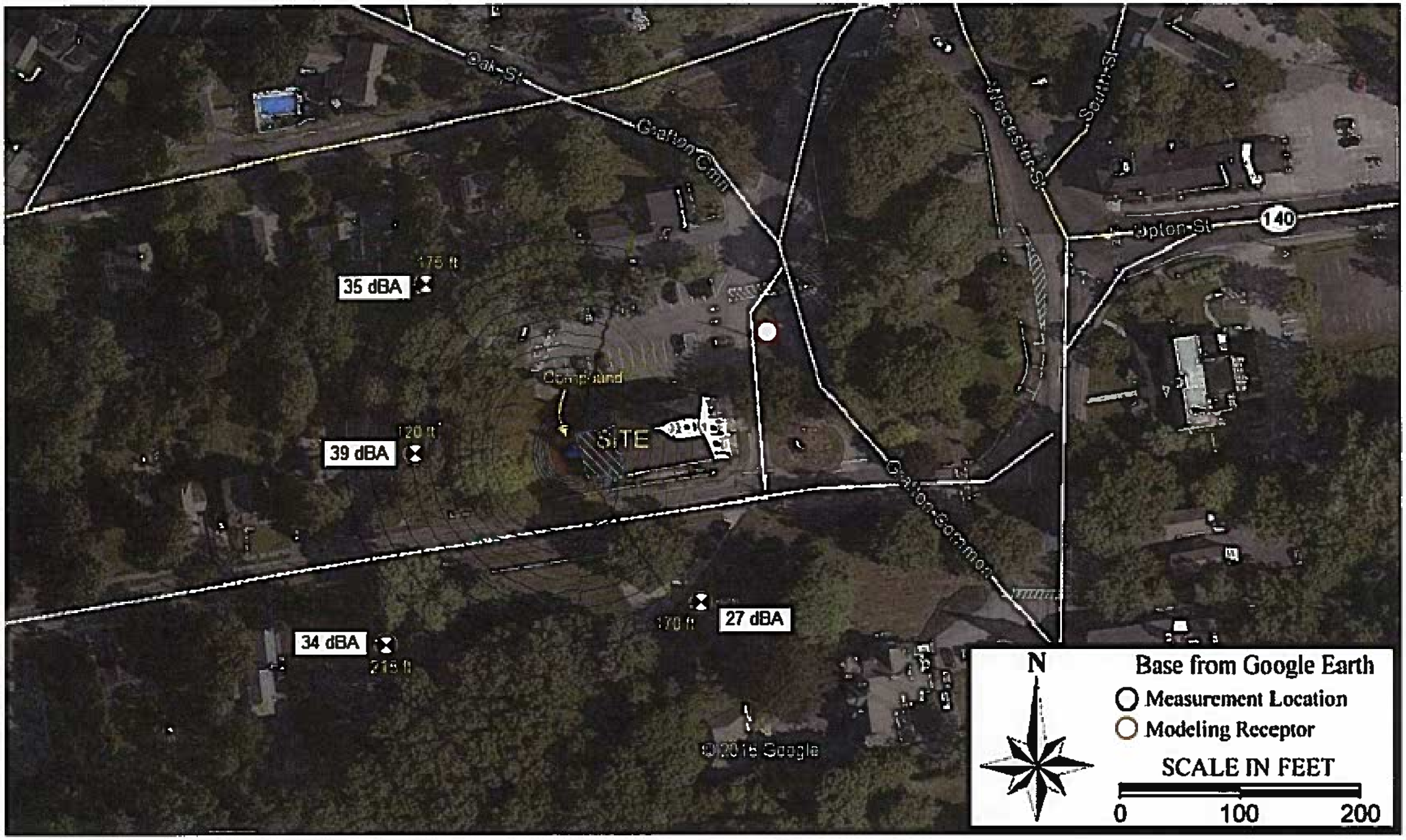


Figure 5: Graphical Summary of the Facility Sound Modeling Results